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# TECHNICAL NOTE

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## WOODED DRAWS AND BOTTOMLANDS - MANAGEMENT FOR WILDLIFE BENEFITS

Woody draws and wooded bottomlands provide essential habitat for many wildlife species in the Great Plains. Together these two habitats occupy about 1.1 percent of the landscape (Bjugstad and Girard 1984). Estimates of habitat use for various wildlife species are an indication of the importance of this woody cover for wildlife. Throughout the Great Plains, woody draws provide about 55 percent of prairie deer habitat, 52 percent of prairie turkey habitat, and 50 percent of furbearer habitat (Bjugstad 1984). Twenty-three percent of all nesting bird species of North Dakota nest in wooded draws, and of all bird species of North Dakota, 34 percent used wooded draws or adjacent habitats (Faanes 1983). Woody draws and bottomlands also provide valuable livestock cover, firewood, soil stabilization, watershed maintenance, aesthetics, and plant diversity.

Woody draws include both deciduous and evergreen communities. While juniper areas are stable or increasing, there has been considerable concern over the last 15 to 20 years for deteriorating conditions in deciduous cover. Many deciduous draws and stream bottoms have an overstory of old, dying trees and only scattered remnants of a shrub stand. The ground often lacks duff and litter and there is little evidence of stand reproduction: seeds, suckers, and sprouts are rare. If there is ground cover, it is herbaceous. Some stands have been completely replaced with grasses and forbs. A small percentage of stands are in good condition with a moderately dense stand of trees and a dense, vigorous, mixed stand of shrubs. In these draws, litter and duff provide soil protection and there is abundant evidence of tree and shrub reproduction.

The causes of woody draw deterioration vary. Livestock use of these draws is intensive. Many of the trees are reaching the end of their normal lifespan and, therefore, are more susceptible to damage by insects, disease, livestock, and weather. In addition, changes in hydrology, plant succession, erosion, and protection from wildfire have been suggested as causes for the deterioration of woody habitats in the Great Plains (Boltd, et. al, 1978).

Cattle are considered to be the most destructive force on woody draws, especially with summer long grazing. The draws provide shade, escape from insects, rubbing sites, and green forage during drier seasons. Livestock water and mineral licks are often located in draws as well. Concentration of

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livestock use in woody draws occurs regardless of stocking rates. The attraction of livestock to woody cover must also be considered in planning range management systems.

Hodorff (1985) compared wildlife use of green ash woodlands in closed and open stand conditions in northwestern South Dakota. Twice as many birds were observed in closed canopy stands as in open canopy stands. Eighty-two species of birds were observed during the study. Fifty-nine species were observed in both open and closed stands. Seventeen species were observed only in closed stands, and 6 species were observed only in open stands. Bird species that occurred in significantly greater numbers in closed stands were characteristic of wood margins or deciduous woodlands. The western meadowlark was the only species significantly more abundant in open stands. Deer also used closed stands more than open stands, especially during fawning and in winter.

To maintain a variety of wildlife species and especially to improve or maintain wildlife abundance, it is necessary to manage woody draws and bottomlands to provide shrubs and good seedling and sapling growth. In most cases, management systems to improve conditions of woody draws and bottomlands must meet the needs and interests of private livestock operators as well as wildlife needs. Measures commonly proposed include the following: livestock exclusion; fencing to control use of draws; planned grazing systems; reduced stocking rates; cutting of low-vigor, high-risk trees to encourage sprouting and suckering; underplanting tree and shrub seedlings; and various techniques to manage livestock distribution in pastures that include woody draws or bottomlands.

Total livestock exclusion has been effective in rehabilitation of overgrazed draws and streamside areas. This method does not produce rapid results; at least 5 to 10 years are needed to see results. The length of time needed depends on the topographical location and the degree of degradation. Total exclusion is not always feasible due to economic considerations. Use of adjacent bottomlands for hay allows some economic benefit while protecting draws or stream areas from livestock use.

Grazing systems can provide a means of improving habitat conditions in woody draws if the system is planned to consider impacts on the draw. The important points are to avoid continuous use of draws and riparian areas, especially throughout the entire summer, and to control the grazing intensity in the woody zone.

Fencing can be used to include a stream or draw in a smaller pasture that is used only occasionally. A wooded area that is large enough could be fenced as a separate unit for use only during periods when shade is critical and only until utilization has reached a predetermined amount that will protect woody vegetation.

Rest-rotation systems have maintained and improved woody draws in a number of cases. A two-year rest-rotation (2 years rest, 1 year grazing) maintained riparian conditions in Idaho (Platts 1984). Regular rest-rotation systems have also maintained and improved conditions. The effects of grazing systems on trees and shrubs are not well known. The physiological and ecological requirements of the particular woody plants in particular draws must be considered in the design of the grazing system, as well as the requirements of the grasses.



Livestock distribution within pastures is another factor that has been tested for improving conditions in woody draws. Success with these has been difficult to obtain because the attraction to woody cover is very strong.

To reduce livestock concentrations in woody cover, place minerals and watering tanks well away from the wooded areas. Portable, wooden structures for shade have been used to attract livestock to unused areas in a pasture and away from natural woody cover.

Reduced stocking rates based on the available grass cover, have not improved woody cover because there is no compensation for the natural attraction of livestock to woody cover. Platts (1982) suggests that up to 25 percent utilization of riparian vegetation will not cause significant changes.

Removal of dead or dying trees to promote sprouting and suckering is under evaluation as a means to regenerate draws in poor condition. Livestock exclusion in conjunction with removal is also being tested. Again, response of different tree and shrub species is varied.

Underplanting or reestablishment of woody plants in draws and riparian areas has been successful under rested conditions. Some species tolerate livestock presence, but the success of the plantings improves with exclusion.

It is obvious that there are many questions about woody draw and riparian zone management. Research is in progress and some progress has been made. For the present, it is important to be aware of changing conditions in woody cover and be observant of changing environmental influences.

A handwritten signature in cursive script, reading "Dwayne J. Breyer". The signature is written in dark ink and is positioned above the printed name.

Dwayne J. Breyer  
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